

YOUR FIRST LOOK AT THE *NEW* TOASTERPAINT 4.0, PAGE 20

VIDEO TOASTER USER

THE PERSONAL VIDEO PRODUCTION MAGAZINE

JFK

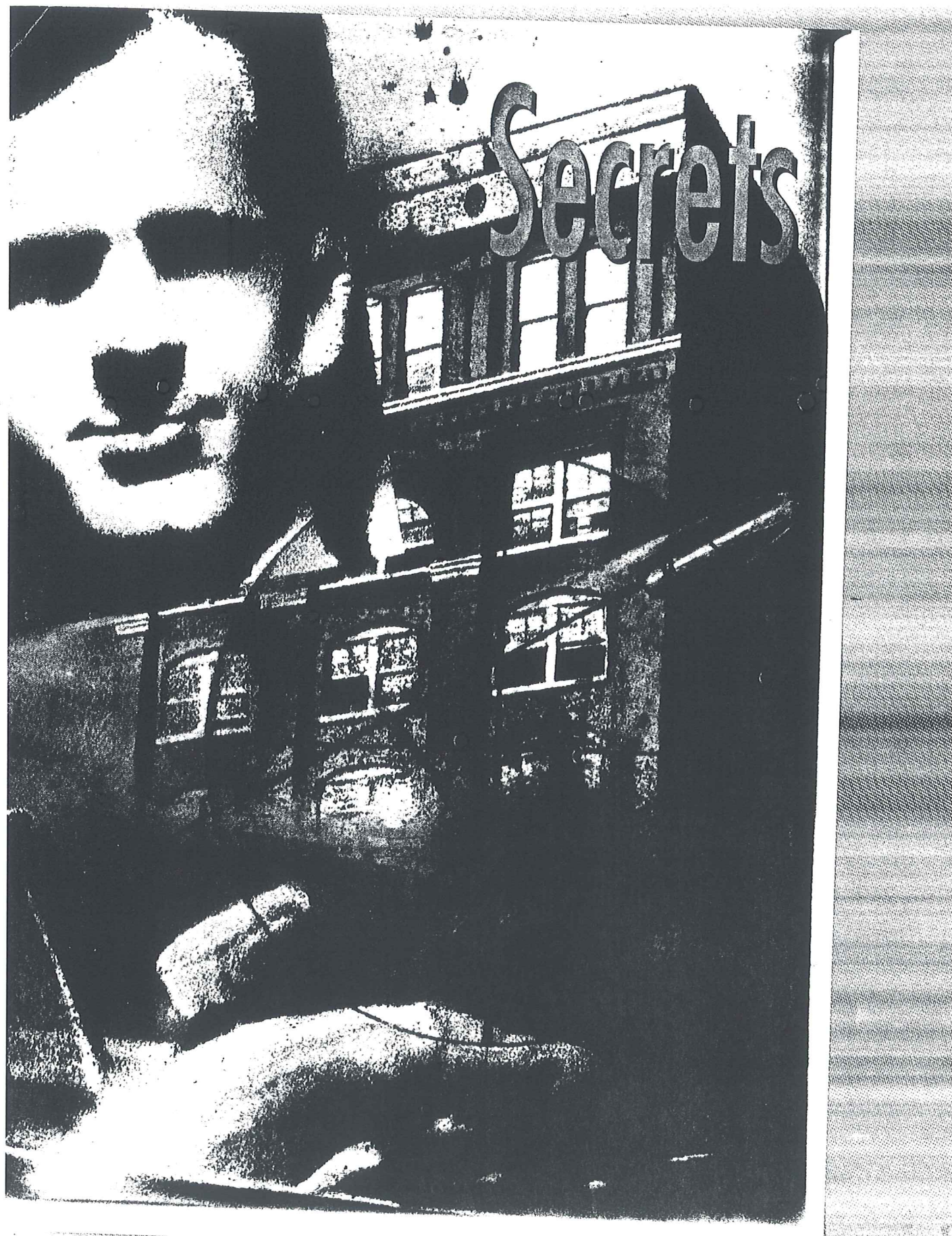
Assassination Unfolds in
LightWave Re-creation

2D or not 2D?
Toaster Cel Animation

The LightWave Speed
Solution

Mix it up with the
SoundSwitch





of a Homicide:

Exploring the JFK Assassination

by Dale K. Myers

In the summer of 1975, radio announcer Dale Myers had an opportunity to see a bootleg copy of the Zapruder film, the famous 8mm home movie depicting the assassination of John F. Kennedy on Nov. 22, 1963. That moment changed his views on the murder of the 36th President of the United States. Over the next 20 years, Myers searched the indices of the National Archives in Washington, D.C.; prowled the corridors of the Texas State Archives in Austin, Texas; and visited Dealey Plaza, site of the assassination.

As a bona fide "expert" on the assassination, Myers was instrumental in the release of nearly 5,000 documents from the FBI and CIA under the Freedom of Information Act, produced a 1983 radio documentary that was honored by the Associated Press, wrote the Detroit News' 25th anniversary coverage of the assassination, and served as technical consultant both in front of and behind the cameras of the critically acclaimed 1993 BBC/Frontline television special Who Was Lee Harvey Oswald? Now an award-winning computer animator, Myers explores the JFK assassination in a new documentary.

They say that if you were to study a single subject for one hour a day, in five years time you'd be a leading expert on that subject. If you were to spend 20 years time, you'd have a compelling urge to write a book. So far, I've been able to resist that temptation.

For me, the JFK assassination has always been a visual event. In fact, it is arguably the most photographed murder in history. Eyewitnesses I've spoken with over the years have repeatedly proven that there's truth in the old cliché "you had to be there." Yet, on November 22, 1963, events occurred so quickly that witnesses were unable to record the intricate details we now need to solve this three-decade-old mystery. If only we could somehow time travel to Dallas and preserve, for the official record, those details that have since eluded historians. Perhaps then, the assassination wouldn't be so mysterious.

In 1990, after embarking on a career in computer animation, I found the time machine I had wished for in the form of LightWave 3D.

Applying computer animation to the JFK assassination is not a new idea. PBS's NOVA program included a crude wireframe computer rendering of the assassination site in a 1988 TV special hosted by Walter Cronkite, while Failure Analysis Associates, Inc. produced an improved computer version of the plaza in 1992. Yet both renderings focused on a single issue, the trajectory of the shots fired at Kennedy's motorcade. I wanted to go beyond this focus.

Secrets of a Homicide

The result is *Secrets Of A Homicide*, a half-hour computer-generated exploration of the crime of the century. The concept was simple: rotoscope the Zapruder film into a 3D-animated model, then re-film the entire event from multiple viewpoints using high-resolution cameras. Through computer imaging, viewers would step back in time to become witnesses to the JFK assassination.

Secrets Of A Homicide is a crime scene re-creation on a monumental scale. I knew that if the final renderings were to have any evidential value, the crime scene setting demanded historical accuracy and mathematical precision.

Creating Dealey Plaza

To begin, I studied a survey map of Dealey Plaza that was prepared by Drommer and Associates for the 1978 House Select Committee on Assassinations.

Dealey Plaza is a triangular-shaped park area at the edge of Dallas' downtown business district. It is bordered on the east by Houston Street and the west by a railroad bridge known as the Triple Underpass. Cutting through the plaza are three roads—Elm, Main and Commerce—that sweep down a three-degree grade and slice under the Triple Underpass. To keep a reasonably low polygon count, I decided to model the north side of the plaza, do a mirror image, merge the two halves, and then trim the south end of unnecessary polygons.

The survey map provided precise elevations and locations of the plaza's main features—sidewalks, streets, lampposts, sewers, monuments, buildings and

spread to a radius of 22.5 feet as it meets the south face of the Depository. The trajectory of the shot that struck Connally must fall within the area defined by the cone.

Rendering Z-223 with the error cone in place provided the answer to the single-bullet question (Figure 14). If Connally was hit at Z-223, then it's almost a certainty that the same shot struck JFK first and came from the sniper's nest window of the Book Depository—the only open window unaccounted for within the cone.

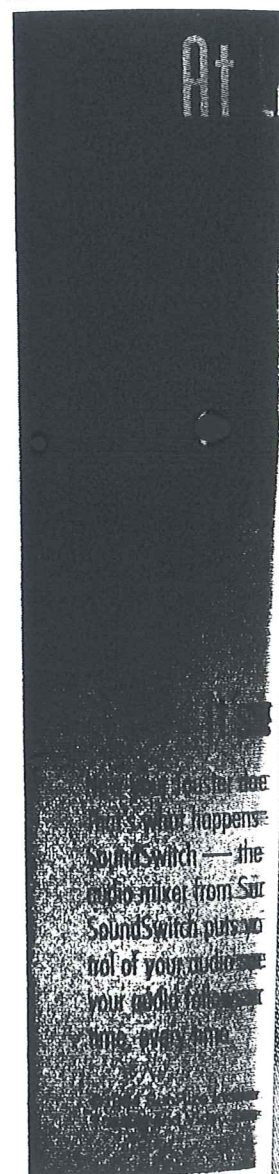
The Head Shot

Both men react within four frames of being hit. JFK slumps to the left, elbows up, while Connally wheels to his right and into his wife's arms. At the moment of the head shot (Z-313), the president's head slams forward nearly two inches, then reverses into a recoil against the backseat (Z-319).

Determining the trajectory of the shot to JFK's skull proved to be more elusive. The House Select Committee had calculated a trajectory that intersected the south face of the Depository 15 feet above the sixth-floor window sill. This was based on a straight line drawn between the inshoot and outshoot wounds evident in X-rays and assumes the bullet did not change course as it passed through JFK's skull. This assumption is challenged by additional evidence that the bullet fragmented on impact, leaving two large chunks on the floor of the limousine as well as a trail of minute fragments in the president's brain. There was also damage to the limousine's windshield and a chrome strip above the sun visor.

To check the committee's work, I entered Modeler and created a bullet track trajectory matching the line it had used. The line was extended rearward 300 yards. Returning to Scene Layout, the bullet track was parented to the president's head and several viewpoints were rendered.

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Based on the three-dimensional positioning of JFK's skull in frame 312, the House Select Committee's trajectory line was shown to intersect the south face of the Depository 60 feet above the sixth-floor window sill—not 15 feet as reported by the Committee. After including a 27.5-foot radial margin of error, it was clear that it would be impossible to fire a bullet along this line from the Depository or any other adjacent buildings. These results indicate that the House Select Committee's positioning of JFK's skull at Z-312 was incorrect. It also bolsters the notion that the bullet changed course before exiting the skull which, by definition, would eliminate the ability to calculate any true trajectory based on the inshoot and outshoot wounds to the president's skull.

Entertaining the hypothetical, I calculated a line from the sniper's nest window to the president's head at Z-312 and then extended that line forward. This line exits the top-right-rear of JFK's skull—within the area blown out upon impact. Although this should not be construed as a true headshot trajectory, it does demonstrate that the damage to JFK's skull is consistent with a shot from the Texas School Book Depository.

Shot From the Grassy Knoll

Preliminary work on a theoretical shot from the grassy knoll to JFK's head between Z-313 and Z-314 reveals a number of interesting facts. First, the president's body trav-

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Circle number one
I found this article:
Very Useful
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